

Index

| | |
|--|-------------------------|
| A. F. A. principles and purposes..... | 1 |
| Acid slags | 1171 |
| Air furnaces, Refractories for..... | 90 |
| Albany sands classified into grades..... | 387 |
| Alloy steel castings | 1133 |
| Alloys, Centrifugal casting of non-ferrous..... | 174 |
| Alloys on cast iron, Effect of special..... | 978 |
| Alloys on growth of gray cast iron, Effect of..... | 871 |
| Aluminum, Use of pyrometers in melting..... | 629 |
| Aluminum-alloy castings, Casting tolerances for permanent mold..... | 231 |
| Aluminum-alloy castings, Gating permanent mold..... | 232 |
| Aluminum-alloy castings in permanent molds, Kinds of alloys used for..... | 229 |
| Aluminum-alloy permanent mold castings..... | 214 |
| Aluminum foundries, Temperature control in..... | 611 |
| Annealing steel castings | 1191 |
| Apprentice records | 83 |
| Apprentice training | 6 |
| Apprentice training at the Newport News Ship-Building and Dry Docks Company | 76 |
| Apprentices, Pattern shop | 82 |
| Basic slags | 1176 |
| Basic slags, Use of fluor spar in..... | 1179 |
| Bibliography—French testing of cast iron..... | 741 |
| Binders, Standard sand for use in testing cores..... | 567 |
| Brass, A thermocouple for ladle temperatures of..... | 663 |
| Brass foundry by means of pyrometers, Temperature control in the | 640, 649, 658, 663, 675 |
| Car wheels, Chill | 890 |
| Carbon in cast iron..... | 701 |
| Carbon to silicon on the structure of iron in chill rolls, Effect of the ratio of | 844 |
| Carbide content of cast iron dependent upon degree and duration of super heat | 943 |
| Carbide disintegration, Effect of density on..... | 967 |
| Cast iron, A shearing test for gray..... | 858 |
| Cast iron, Ball hardness test for..... | 711 |
| Cast iron, Bibliography on French testing of..... | 741 |
| Cast iron, Carbon in..... | 701 |
| Cast iron, Chemical analysis of..... | 717 |
| Cast iron, Chromium in..... | 872 |
| Cast iron, Compression test for..... | 708 |

| | |
|---|-----|
| Cast iron, Compressive strength..... | 729 |
| Cast iron, Dilatometer tests of..... | 957 |
| Cast iron, Dilatometric study of..... | 787 |
| Cast iron, Effect of alloys on..... | 978 |
| Cast iron, Effect of silicon on growth of..... | 972 |
| Cast iron, Effects of cooling rates on properties of..... | 928 |
| Cast iron, Effects of jolting..... | 938 |
| Cast iron, Favorable effects of duplexing..... | 925 |
| Cast iron, Forms of sulphur in..... | 818 |
| Cast iron, Fremont machine for testing..... | 851 |
| Cast iron, Fremont shearing test for..... | 705 |
| Cast iron, Graphite, pearlite and cementite in..... | 700 |
| Cast iron, Growth of gray..... | 871 |
| Cast iron, Heat resistant..... | 976 |
| Cast iron, High test..... | 736 |
| Cast iron, Influence of graphitizers on..... | 886 |
| Cast iron, Influence of phosphorus on..... | 986 |
| Cast iron, Influence of pouring temperatures on graphite formation of.. | 920 |
| Cast iron, Influence of publication of information on pearlitic..... | 916 |
| Cast iron, Micrographic examination of..... | 713 |
| Cast iron, Nickel in..... | 872 |
| Cast iron, Oxidized | 908 |
| Cast iron, Process for producing high test..... | 956 |
| Cast iron, Production of high test..... | 914 |
| Cast iron, Properties of high resistance..... | 697 |
| Cast iron, Relation between chemical composition and superheating..... | 931 |
| Cast iron, Relation between results given by various methods of test- ing machine castings of..... | 722 |
| Cast iron, Relation of size of graphite to growth of..... | 966 |
| Cast iron, Static bending test for..... | 710 |
| Cast iron, Tensile tests for..... | 712 |
| Cast iron, Testing | 690 |
| Cast iron, The sulphur question of..... | 811 |
| Cast iron, Theory of formation of graphite nuclei in..... | 918 |
| Cast iron, Transverse testing of..... | 748 |
| Cast iron, White | 896 |
| Cast iron crystallization theories | 926 |
| Cast iron in relation to its thickness, The strength of..... | 746 |
| Cast iron of various melting methods, Effects on..... | 961 |
| Cast iron pipe by centrifugal mold process..... | 165 |
| Cast iron used in centrifugally cast pipes, Chemical composition of..... | 166 |
| Cast iron versus superheating, Low melting temperatures of..... | 924 |
| Cast irons, Application of dilatometry in testing..... | 802 |
| Cast irons, Chemical specifications of heating and scale resisting..... | 897 |
| Cast irons, Chilling | 889 |
| Cast irons, Depths of chill in..... | 821 |
| Cast irons, Dilatometer study of sulphur in..... | 802 |

| | |
|--|----------|
| Cast irons, Graphitization of silicon..... | 796 |
| Cast irons, Influence of sulphur and manganese in..... | 810 |
| Cast irons, Heat and scale resisting..... | 881 |
| Cast irons, High sulphur..... | 849 |
| Cast irons, High test..... | 882 |
| Cast pipes, Strength and chemical properties of centrifugally..... | 167 |
| Cast steels, Manganese in..... | 1152 |
| Cement, High temperature..... | 147 |
| Cementite, Dilatometer study of graphitization of..... | 793 |
| Centrifugal casting process in Great Britain and Europe, Development of the..... | 163 |
| Centrifugal tube casting in hot molds..... | 157 |
| Centrifugal castings, Chemical composition of general..... | 170 |
| Centrifugal castings, Physical and mechanical properties of..... | 172 |
| Centrifugal castings of non-ferrous alloys..... | 174 |
| Centrifugal castings of steel..... | 173 |
| Centrifugally cast pipes, Strength properties of..... | 167 |
| Chaplets for large castings..... | 1032 |
| Chemical analysis of cast iron..... | 717 |
| Chill car wheels..... | 890 |
| Chill in cast irons, Depth of..... | 821 |
| Chill rolls, Effect of ratio of carbon to silicon on structure of iron in.. | 844 |
| Chill tests, Design of..... | 848 |
| Chilled iron, Effects of manganese on..... | 842 |
| Chilling irons..... | 889 |
| Chrome-nickel steel, Tests of..... | 1163 |
| Chromium in cast iron..... | 872 |
| Clay bonds in sand heaps with sand cutter, Mixing..... | 317 |
| Clay bond in molding sand heaps..... | 307 |
| Clay content of sand heaps, Objections to increasing..... | 311 |
| Clay substance of foundry sands, Determining..... | 358, 528 |
| Clay upon core oil requirements, Effect of..... | 599 |
| Committee on conservation and reclamation of foundry sands, Report of | 512 |
| Committee on corrosion of metals, Report of..... | 85 |
| Committee on grading foundry sands, Report of..... | 493 |
| Committee on investigation of effect of phosphorus and sulphur in steel, Report of A. F. A. representative on..... | 1197 |
| Committee on malleable foundry refractories, Report of..... | 88 |
| Committee on refractories for steel foundries, Report of..... | 118 |
| Committee on simplification of foundry refractories, Report of..... | 150 |
| Committee on steel castings, Report of..... | 1195 |
| Committee on survey of refractories of the non-ferrous industry, Report of..... | 136 |
| Committee on tests of foundry sands, Report of..... | 516 |
| Compression test for cast iron..... | 708 |
| Compressive strength tests of foundry sands..... | 521 |
| Compressive tests of baked cores..... | 474 |

| | |
|---|------|
| Compressive tests of green molding sand..... | 435 |
| Converter steel foundries, A review of progress in..... | 1129 |
| Converter steel practice, Recarburization in..... | 1190 |
| Converter steels, Blowing procedure in making..... | 1185 |
| Converter steel, Manganese and sulphur in..... | 1189 |
| Converter steels, Physical properties and composition of cast..... | 1185 |
| Cooling rates on properties of cast iron, Effects of..... | 928 |
| Copper alloys, Fluidity of | 671 |
| Copper alloys, Phosphorus influence on fluidity of..... | 673 |
| Core binders, Standard sand for use in testing..... | 567 |
| Core oil requirements, Effect of clay upon..... | 599 |
| Core oils, Effect of driers upon..... | 590 |
| Core oils, Some properties of..... | 577 |
| Core oils, Testing methods for determining properties of..... | 581 |
| Core racks, Using industrial trucks in handling..... | 72 |
| Core room application of materials handling..... | 50 |
| Core sand tests | 525 |
| Core sands, Effect of grain size on permeability of..... | 570 |
| Core sands, Green strength of..... | 602 |
| Core sands versus oil requirements, Grain size of..... | 601 |
| Core testing, Control | 257 |
| Core testing, Report of sub-committee on..... | 540 |
| Cores, Compressive tests of baked..... | 474 |
| Cores, Dry strength test for..... | 543 |
| Cores, Effect of moisture on oil sand..... | 598 |
| Cores, Green bond testing of..... | 559 |
| Cores, Maximum strength versus baking temperatures of..... | 586 |
| Cores, Permeability testing of..... | 562 |
| Cores, Tensile tests of baked..... | 475 |
| Cores and baked sands, Apparatus for making tests of..... | 474 |
| Cores made with cereal binders, Methods for determining the properties of | 558 |
| Corrosion of metals, Report of committee on..... | 85 |
| Cost accounting, Foundry | 25 |
| Cost accounting, Labor and | 18 |
| Cost accounting, Uniform | 11 |
| Cost accounting, What is | 11 |
| Cost accounting in industry | 9 |
| Cost accounts, Classification | 27 |
| Cost records | 39 |
| Cost statement, Monthly | 34 |
| Cost system, Factors in an effective..... | 14 |
| Cost system, Overhead charges in a foundry..... | 31 |
| Cost system for small gray iron foundry..... | 25 |
| Costs, Distribution of indirect..... | 35 |
| Costs, Procedure to obtain..... | 38 |
| Costs, Statement of metal..... | 32 |

| | |
|---|------|
| Cupola, A study of iron melted in a..... | 1020 |
| Cupola, Melting all steel charges in a..... | 1011 |
| Cupola lining materials for melting all steel charges..... | 1014 |
| Cupolas, Industrial trucks used in charging..... | 67 |
| Cupolas, Using industrial trucks in handling hot iron from..... | 70 |
| Crystallization theories of cast iron..... | 926 |
| Depth of chill in cast irons..... | 821 |
| Die castings compared with sand and permanent mold castings..... | 216 |
| Dilatometric analysis of materials..... | 766 |
| Dilatometer in testing cast iron..... | 802 |
| Dilatometer tests of cast iron..... | 957 |
| Duplexing cast iron, Favorable effects of..... | 925 |
| Electric furnace production of non-ferrous metals, Refractories for the..... | 142 |
| Electric steel foundries, Developments in..... | 1131 |
| Electric steel production, Refractories for..... | 125 |
| Fineness of sands, Determination of..... | 359 |
| Fineness tests of foundry sands, Precautions to be observed in making..... | 517 |
| Fire brick specifications and standardization for malleable furnace refractories..... | 104 |
| Fluor spar in basic slags, Use of..... | 1179 |
| Foundry cost accounting..... | 25 |
| Foundry costs..... | 3 |
| Foundry refractories..... | 6 |
| Foundry refractories, Malleable..... | 88 |
| Fremont machine for testing cast iron..... | 858 |
| Fuzed quartz as a material for long-life molds..... | 211 |
| Gate sizes, Calculating..... | 1043 |
| Gates for iron castings, Pouring time in relation to size of..... | 1040 |
| Gating causes trouble in steel castings..... | 1100 |
| Gating iron castings..... | 1038 |
| Gating permanent mold aluminum-alloy castings..... | 232 |
| Grading foundry sands, Report of committee on..... | 493 |
| Grading of molding sands..... | 373 |
| Grain fineness and clay content of sands to permeability, Relation of..... | 508 |
| Graphite, Cementite and pearlite in cast iron..... | 700 |
| Graphite above critical temperature, Theories based on formation of..... | 939 |
| Graphite formation in cast iron, Influence of pouring temperatures on..... | 920 |
| Graphite nuclei, Theory of formation of..... | 918 |
| Graphitization of cementite, Dilatometric study of..... | 793 |
| Graphitizers on cast iron, Influence of..... | 886 |
| Gray iron castings committee..... | 5 |
| Gray iron castings made in permanent molds, Properties..... | 190 |

| | |
|---|----------|
| Green bond testing machine for cores..... | 559 |
| Growth of cast iron, Effect of silicon..... | 972 |
| Growth of cast iron, Relation of size of graphite to..... | 966 |
| Hardness test for cast iron, Ball..... | 711 |
| Heat and scale resisting cast irons | 881 |
| Heat and scale resisting cast irons, Chemical specifications of..... | 897 |
| Heat resisting cast iron..... | 976 |
| Heat treatment of carbon steels, Tests and..... | 1157 |
| High test cast iron | 736, 882 |
| High test cast iron, Process for producing..... | 956 |
| High test cast iron, Progress in production of..... | 914 |
| International foundry congress, Second..... | 3 |
| Iron, Ball hardness test for cast..... | 711 |
| Iron, Carbon in cast..... | 701 |
| Iron, Chemical analysis of cast..... | 717 |
| Iron, Compression test for cast..... | 708 |
| Iron, Fremont shearing test for cast..... | 705 |
| Iron, Graphite, pearlite and cementite in cast..... | 700 |
| Iron, Micrographic examination of cast..... | 713 |
| Iron, Properties of high resistance cast..... | 697 |
| Iron, Static bending test for cast..... | 710 |
| Iron, Tensile tests for cast..... | 712 |
| Iron, Testing cast | 690 |
| Iron carbon alloys, Explanation of system of..... | 697 |
| Iron castings, Gating | 1038 |
| Iron castings, Production by permanent mold process of soft gray..... | 189 |
| Iron castings in permanent molds, Metal for heavy..... | 195 |
| Iron castings made in permanent molds, Properties of gray..... | 190 |
| Iron melted in a cupola, A study of..... | 1020 |
| Iron under repeated heatings, Effect of alloys on growth of gray..... | 871 |
| Jolt ramming, Importance of proper..... | 315 |
| Jolting cast iron, Effects of..... | 938 |
| Ladles, Refractories for steel foundry..... | 129 |
| Limestone for basic steel slags..... | 1176 |
| Long life molds..... | 177 |
| Machinery castings | 735 |
| Malleable annealing ovens, Refractories for..... | 108 |
| Malleable cast iron, A study of..... | 1081 |
| Malleable cast iron, Chemical specification versus physical require- ments for | 1052 |
| Malleable cast iron, What may be required of..... | 1049 |

| | |
|---|------|
| Malleable casting possibilities in the permanent mold process..... | 190 |
| Malleable castings, Comparison of strength of machined and un- machined | 1072 |
| Malleable castings, Effect of high and low temperatures upon physical properties of the gray heart of..... | 1083 |
| Malleable castings, The question of chemical composition of..... | 1062 |
| Malleable castings, The welding of..... | 1060 |
| Malleable foundry, Flow-sheet of materials in a..... | 61 |
| Malleable foundry refractories, Report of committee on..... | 88 |
| Malleable furnace bungs, Refractory brick..... | 100 |
| Malleable furnace refractories, Fire brick specification and standardiza- tion for | 104 |
| Malleable furnaces, Refractories for hearth bottoms of..... | 93 |
| Malleable furnaces, Refractories for front bridge walls of..... | 93 |
| Malleable furnaces, Refractories for side walls of..... | 96 |
| Malleable furnaces, Tap out blocks for..... | 99 |
| Malleable iron, Comparison of static tests of steel castings and cast- ings of | 1073 |
| Malleable iron, Cross bending and tensile tests for..... | 1055 |
| Malleable iron, Machinability requirements for..... | 1059 |
| Malleable iron, Refractories for electric melting furnaces for..... | 89 |
| Malleable iron, Refractories for open-hearth furnace melting..... | 89 |
| Malleable iron, Tensile properties of rough, ground and machined bars of | 1077 |
| Malleable iron, Tensile tests of steel castings and..... | 1072 |
| Malleable iron, The Walker wedge test for..... | 1054 |
| Malleable iron, The yield point of..... | 1055 |
| Malleable iron to repeated impact stresses, Resistance of..... | 1072 |
| Manganese and sulphur in cast converter steels..... | 1189 |
| Manganese and sulphur in cast irons..... | 810 |
| Manganese and vanadium on steel castings, Effects of high..... | 1161 |
| Manganese in cast steels | 1152 |
| Manganese on chill of irons, Effect of..... | 842 |
| Manganese-sulphur balance | 811 |
| Materials handling in a foundry with electric industrial truck..... | 59 |
| Materials in a foundry, Handling | 45 |
| Materials in a malleable foundry, Flow sheet of..... | 61 |
| Melting methods, Effects on cast iron of various..... | 961 |
| Micrographic examination of cast iron..... | 713 |
| Moisture test and temper of foundry sand heaps..... | 246 |
| Molding sand heaps, Mechanical mixing and handling problems of mix- ing clay bond in..... | 314 |
| Molding sand research | 5 |
| Mulling as an aid in incorporating clay bond in sand heaps..... | 309 |
| Mulling on the compressive strengths of foundry sands, Effect of..... | 273 |
| Mulling on the permeability of foundry sands, Effect of..... | 290 |

| | |
|---|----------|
| Mulling on the physical properties of foundry sands, Effects of..... | 269 |
| Mulling on the tensile strength of foundry sands, Effect of..... | 282 |
| Nickel-chrome steels, Tests of..... | 1163 |
| Nickel in cast iron | 872 |
| Non-ferrous alloys, Centrifugal castings of..... | 174 |
| Non-ferrous foundries, Summary of study of pyrometers in..... | 683 |
| Non-ferrous foundries, Temperature control by pyrometers in..... | 685 |
| Non-ferrous foundry, Report of committee on refractories for the.... | 136 |
| Non-ferrous metal temperatures, Visual judgment of..... | 670 |
| Non-ferrous metals, Refractories for electric furnace production of.... | 142 |
| Non-ferrous metals, Use of pyrometers in casting..... | 658 |
| Nuclei, Theory of formation of graphite..... | 918 |
| Oil cores, Permeability of..... | 597 |
| Oil sand cores, Effect of moisture on..... | 598 |
| Oils, Some properties of core..... | 577 |
| Open-hearth furnaces melting malleable iron, Refractories for..... | 89 |
| Open-hearth furnace refractories | 119 |
| Open-hearth slags | 1171 |
| Open-hearth steel foundries, Progress during nineteenth century in.... | 1124 |
| Orbit steel, Stress-strain diagram of..... | 1155 |
| Overhead charges in a foundry cost system..... | 31 |
| Oxidation in melting steel..... | 1173 |
| Oxidized cast iron..... | 908 |
| Pattern standardization | 4 |
| Pearlite, Graphite and cementite in cast iron..... | 700 |
| Pearlite in cast iron | 700 |
| Pearlitic cast iron, Influence of publication of information on..... | 916 |
| Permeability of foundry sands, Determining..... | 369 |
| Permeability of molds, Testing | 263 |
| Permeability testing of cores..... | 562 |
| Permeability tests of sand heaps..... | 247 |
| Permanent and long-life molds | 177, 204 |
| Permanent and long-life molds, Fuzed quartz as a material for..... | 205, 211 |
| Permanent mold, Properties of gray iron castings made in..... | 190 |
| Permanent mold, Sand and die casting processes compared..... | 216 |
| Permanent mold aluminum-alloy castings, Casting tolerances for..... | 231 |
| Permanent mold aluminum castings, Gating..... | 232 |
| Permanent mold castings, Aluminum-alloy | 214 |
| Permanent mold process | 182 |
| Permanent mold process, Cooling system for..... | 186 |
| Permanent mold process, Malleable casting possibilities in the..... | 190 |
| Permanent mold process of soft gray iron castings, Production by.... | 189 |
| Permanent molds, Alloys for aluminum-alloy castings in..... | 229 |
| Permanent molds, Material for heated..... | 159 |

| | |
|--|----------|
| Permanent molds, Metal for heavy iron castings in..... | 195 |
| Pig iron, Using industrial trucks in handling..... | 68 |
| Pitch binders in sand heaps..... | 253 |
| Phosphorus influence on fluidity of copper alloys..... | 673 |
| Phosphorus on cast iron, Influence of..... | 986 |
| Pouring temperatures on graphite formation in cast iron, Influence of.. | 920 |
| Pouring time in relation to size of gates for iron castings..... | 1040 |
| President's annual address | 1 |
| Pyrometer, The thermo-electric | 616, 676 |
| Pyrometers in casting of non-ferrous metals, Use of..... | 658 |
| Pyrometers in non-ferrous foundries, Summary of study of..... | 683 |
| Pyrometers in melting aluminum, Use of..... | 629 |
| Recarburization in converter steel practice..... | 1190 |
| Refractories, Report of sub-committee on simplification of foundry.... | 150 |
| Refractories for electric furnace production of non-ferrous metal... | 142 |
| Refractories for electric melting furnaces for malleable iron..... | 89 |
| Refractories for electric steel production of steel castings..... | 125 |
| Refractories for malleable annealing ovens..... | 108 |
| Refractories for non-ferrous foundry, Report of committee on..... | 136 |
| Refractories for open-hearth furnaces melting malleable iron..... | 89 |
| Refractories for open-hearth production of steel castings..... | 119 |
| Refractories for steel foundries, Report of committee on..... | 118 |
| Refractories for steel foundry ladles..... | 129 |
| Refractoriness of foundry sands | 327 |
| Refractoriness of foundry sands, Experimental tests of..... | 547 |
| Refractoriness test of foundry sands..... | 525 |
| Refractory brick for malleable furnace bungs..... | 100 |
| Report of A. F. A. representative on joint committee on investigation of effect of phosphorus and sulphur in steel..... | 1197 |
| Report of committee on conservation and reclamation of foundry sands. | 512 |
| Report of committee on corrosion of metals..... | 85 |
| Report of committee on malleable foundry refractories..... | 88 |
| Report of committee on refractories for the non-ferrous foundry.... | 136 |
| Report of committee on refractories for steel foundries..... | 118 |
| Report of committee on simplification of foundry refractories..... | 150 |
| Report of committee on steel castings | 1195 |
| Report of committee on tests of foundry sands..... | 516 |
| Sand, Determining sea coal in molding..... | 259 |
| Sand, Rates of loading when making strength tests of foundry..... | 432 |
| Sand, Transverse tests of green..... | 464 |
| Sand by designated number, Purchasing..... | 359 |
| Sand castings, die casting and permanent mold castings compared... | 216 |
| Sand classification with respect to clay content..... | 501 |
| Sand classification with respect to grain fineness..... | 494 |

| | |
|--|-----|
| Sand control, Accurate measuring of water added to sand heaps as a means of | 245 |
| Sand control in the foundry | 244 |
| Sand cutter, Mixing clay bond in sand heaps with | 317 |
| Sand for use in testing core binders, Standard | 567 |
| Sand heaps, Mechanical mixing and handling problems of mixing clay bond in molding | 314 |
| Sand heaps, Moisture tests and temper of | 246 |
| Sand heaps, Mulling as an aid in incorporating clay bond in sand heaps | 309 |
| Sand heaps, Objections to increasing clay content of | 311 |
| Sand heaps, Permeability tests of | 247 |
| Sand heaps, Pitch binders in | 253 |
| Sand heaps, Strength tests of | 248 |
| Sand mixer, Experiments with paddle type of | 316 |
| Sand molds, Testing permeability of | 263 |
| Sand shipments, Checking molding | 255 |
| Sand tests, Core | 525 |
| Sands, Apparatus for making tests of cores and baked | 474 |
| Sands, Compressive strength tests of foundry | 521 |
| Sands, Compressive tests of green molding | 435 |
| Sands, Determination of clay substance of foundry | 528 |
| Sands, Determination of fineness | 359 |
| Sands, Determining clay substance of foundry | 358 |
| Sands, Determining permeability of foundry sands | 369 |
| Sands, Durability and refractoriness of foundry | 362 |
| Sands, Effect of grain size on dry bond of core | 569 |
| Sands, Effect of grain size on permeability of core | 570 |
| Sands, Effect of mulling on the compressive strength of foundry | 273 |
| Sands, Effect of mulling on the permeability of foundry | 290 |
| Sands, Effects of mulling on the physical properties of foundry | 269 |
| Sands, Effects of mulling on the tensile strength of foundry | 282 |
| Sands, Experimental tests of refractoriness of foundry | 547 |
| Sands, Grading of molding | 373 |
| Sands, Green strength of core | 602 |
| Sands, Interpretation of screen analysis of fineness of | 378 |
| Sands, Metallurgical control of foundry | 355 |
| Sands, Method of determining grain size of | 375 |
| Sands, Precautions to be observed in making standard fineness test of foundry | 517 |
| Sands, Precautions to be observed in making standard permeability test of foundry | 518 |
| Sands, Properties of typical foundry | 413 |
| Sands, Report of committee on conservation and reclamation of foundry | 512 |
| Sands, Report of committee on grading foundry | 493 |
| Sands, Report of sub-committee on tests of foundry | 516 |
| Sands, Refractoriness of foundry | 327 |

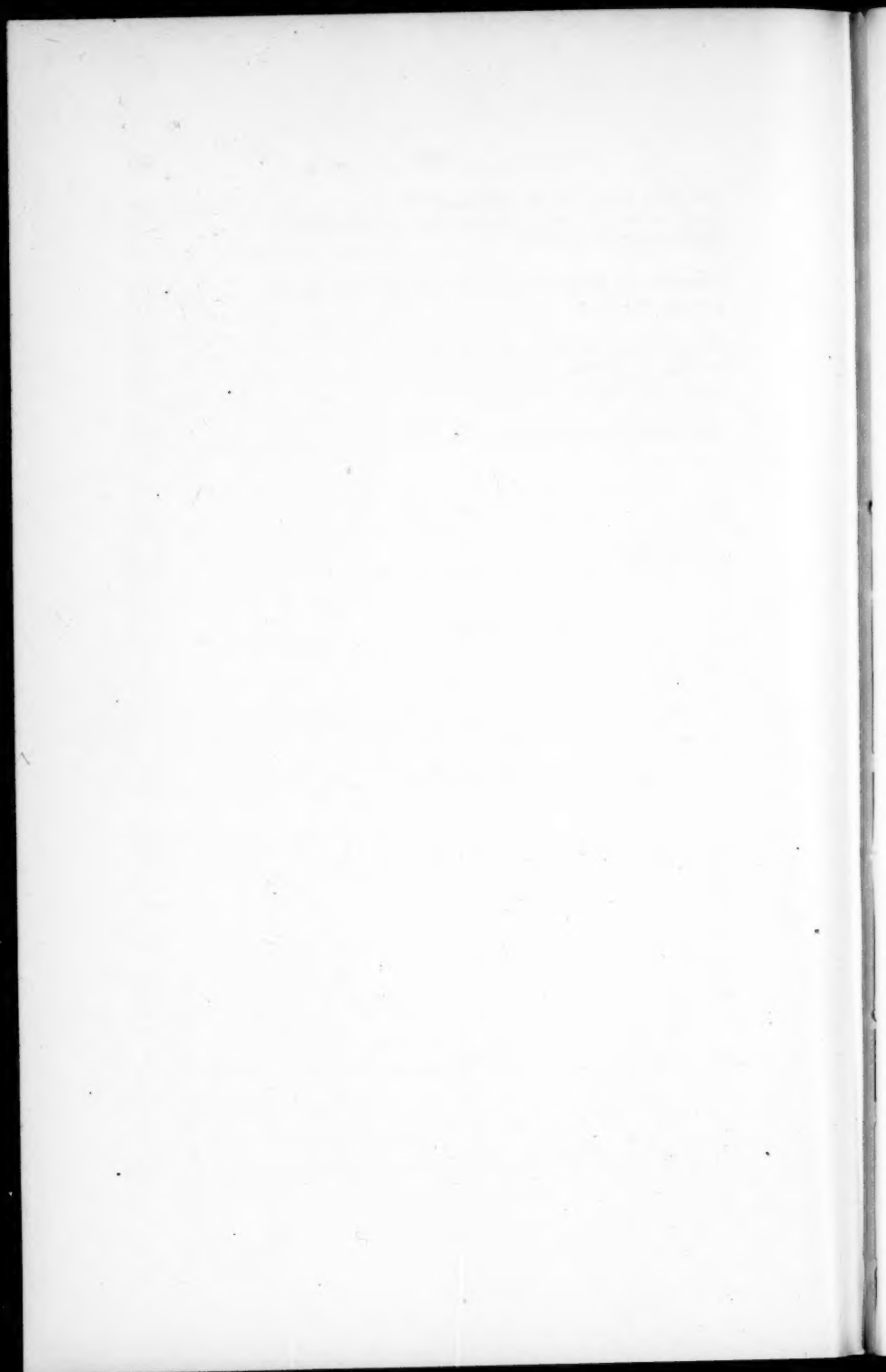
| | |
|--|------------|
| Sands, Refractoriness test of foundry..... | 525 |
| Sands, Strength tests of foundry..... | 404 |
| Sands, Tensile strength tests of foundry..... | 522 |
| Sands, Tensile tests of green molding..... | 454 |
| Sands to permeability, Relation of grain fineness and clay content of.. | 508 |
| Sands with regard to their physical properties, A study of over 700..... | 505 |
| Scabbed castings, Preventing..... | 317 |
| Sea coal in molding sand, Determination of..... | 259 |
| Semi-steel | 1011 |
| Semi-steel, The place of..... | 883 |
| Shearing test, A modified apparatus for..... | 864, 870 |
| Shearing test for cast iron, Fremont..... | 705 |
| Silicon cast irons, Graphitization of..... | 796 |
| Silicon on growth of cast iron, Effect of..... | 972 |
| Slags, Acid | 1171 |
| Slags, Basic | 1176 |
| Slags, Limestone for basic steel..... | 1176 |
| Slags, Open-hearth | 1171 |
| Slags, Use of fluor spar in basic..... | 1179 |
| Specifications for steel castings..... | 1143, 1195 |
| Sprue heights, Effective..... | 1045 |
| Standard sand for use in testing core binders..... | 567 |
| Steel, Oxidation in melting..... | 1173 |
| Steel, Physical properties and composition of cast converter..... | 1185 |
| Steel, Report of A. F. A. representative on joint committee on investigation of effect of phosphorus and sulphur in..... | 1197 |
| Steel, Shock toughness of | 1156 |
| Steel, Stress-strain diagram of orbit..... | 1155 |
| Steel castings, A study of causes of internal shrinkage and cracks of.. | 1098 |
| Steel castings, Alloy | 1133 |
| Steel castings, Annealing | 1191 |
| Steel castings, Competitive materials of..... | 1140 |
| Steel castings, Control of sulphides and non-metallic impurities in making converter | 1186 |
| Steel castings, Defective design of patterns for..... | 1087 |
| Steel castings, Defects in | 1086 |
| Steel castings, Future technical investigations of..... | 1146 |
| Steel castings, Gating causes of trouble in..... | 1100 |
| Steel castings, Refractories for open-hearth production of..... | 119 |
| Steel castings, Relative effect of high manganese and vanadium on..... | 1161 |
| Steel castings, Report of committee on..... | 1195 |
| Steel castings, Specifications for | 1143, 1195 |
| Steel castings and malleable castings, Comparison of tests of..... | 1073 |
| Steel castings discovered after shipment from the foundry, Defects in.. | 1093 |
| Steel castings rejected in foundry, An analysis of..... | 1111 |
| Steel castings rejected in machine shop, Analysis of..... | 1096 |

| | |
|---|----------|
| Steel, Centrifugal castings of..... | 173 |
| Steel charges in a cupola, Melting all..... | 1011 |
| Steel foundry ladles, Refractories for | 129 |
| Steel foundries, A review of progress of crucible..... | 1128 |
| Steel foundries, A review of progress in converter..... | 1129 |
| Steel foundries, Capacity and output of..... | 1135 |
| Steel foundries, Developments in electric..... | 1131 |
| Steel foundries, Progress of open-hearth..... | 1124 |
| Steel foundry industry, Comments on past developments, present tendencies and future possibilities of the American..... | 1121 |
| Steel practice, Recarburization in converter..... | 1190 |
| Steel production, Refractories for electric..... | 125 |
| Steel slags, Importance of color of..... | 1174 |
| Steel slags, Limestone for basic..... | 1176 |
| Steels, Manganese and sulphur in cast converter..... | 1189 |
| Steel, Tests and heat treatment of carbon..... | 1157 |
| Steels, Tests of nickel-chrome..... | 1163 |
| Steels made on Farmer Type machine, Endurance tests of..... | 1164 |
| Strength tests of sand heaps..... | 248 |
| Sulphur, Loss of | 814 |
| Sulphur and manganese in cast irons, Influence of..... | 810 |
| Sulphur in cast converter steels..... | 1189 |
| Sulphur in iron, Forms of..... | 818 |
| Sulphur irons, High..... | 849 |
| Sulphur-manganese balance in cast iron..... | 811 |
| Sulphur on cast irons, Dilatometric study of influence of..... | 802 |
| Superheating, Low melting temperatures of cast iron versus..... | 924 |
| Superheating cast iron, Relation between chemical composition and..... | 931 |
| Tap-out blocks for malleable furnaces..... | 99 |
| Temperature control by use of pyrometers in non-ferrous foundries.... | 685 |
| Tensile strength tests of foundry sands..... | 522 |
| Tensile test for cast iron..... | 712 |
| Tensile tests of baked cores..... | 475 |
| Tensile tests of green molding sands..... | 454 |
| Test, A modified apparatus for shearing..... | 864, 870 |
| Test for cast iron, Ball hardness..... | 711 |
| Test for cast iron, Static bending | 710 |
| Testing, Control core | 257 |
| Testing cast iron, Fremont machine for..... | 858 |
| Testing methods for determining properties of core oils..... | 581 |
| Tests, Core sand | 525 |
| Tests for malleable iron..... | 1054 |
| Thermo-electric pyrometer, The..... | 676 |
| Training apprentices at the Newport News Ship-Building and Dry Docks Company | 76 |

Index

1221

| | |
|---|------|
| Transverse tests of green molding sands..... | 464 |
| Truck, Saving in foundry handling with electric industrial..... | 59 |
| Tumbling barrels, Handling..... | 66 |
| Vanadium and manganese in steel castings, Effect of high..... | 1161 |
| Venting, Importance of..... | 311 |
| Wedge test for malleable iron, Walker..... | 1054 |
| Welding of malleable castings..... | 1060 |
| White iron castings..... | 896 |
| Yield point of malleable iron..... | 1055 |



Author's Index

| | |
|---|------|
| Adams, T. C., Strength Tests of Foundry Sands..... | 404 |
| Allan, J. R., Preliminary Report of the Sub-Committee on the Survey of Refractories Conditions in the Malleable Industry..... | 88 |
| Anderson, R. J., Aluminum-Alloy Permanent Mold Castings..... | 214 |
| Bargellesi, G., Discussion on the Centrifugal Casting Process in Great Britain and Europe..... | 176 |
| Bean, R. D., The Use of Pyrometers in the Casting of Non-Ferrous Metals | 658 |
| Belt, R. E., Foundry Cost Accounting..... | 25 |
| Bennington, E. T., Handling Materials in a Foundry..... | 45 |
| Bull, R. A., Report of A. F. A. Representative on Joint Committee on Investigation of Effect of Phosphorus and Sulphur in Steel..... | 1197 |
| The American Steel Foundry Industry..... | 1121 |
| Cammen, L., Centrifugal Tube Casting in Hot Molds..... | 157 |
| Campbell, C. M., Some Physical Properties and Compositions of Cast Converter Steel..... | 1185 |
| Campbell, H. L., Methods for Determining the Properties of Cores Made With Cereal Binders..... | 558 |
| A Standard Sand for Use in Testing Core Binders..... | 567 |
| Carson, H. Y., Report of Committee on Corrosion of Metals..... | 85 |
| Chevenard, P., with Portevin, A., Principles and Chief Application of Dilatometric Analysis of Materials..... | 766 |
| Clarke, R. R., Visual Judgment of Non-Ferrous Metal Temperatures.. | 670 |
| Corbett, W. J., Report of Sub-Committee on Simplification of Foundry Refractories | 150 |
| Dietert, H. W., On Gating Iron Castings..... | 1038 |
| With Wakefield, H. W., Sand Control in the Foundry..... | 244 |
| Elliott, G. K., A Shearing Test for Gray Cast Iron..... | 858 |
| Fairchild, C. O., with Roeser, W. F., Pyrometry of Molten Brass.... | 675 |
| Grubb, A. A., Report of Sub-Committee on Grading Foundry Sands.. | 493 |
| With Marshall, L. H., and Nass, C. V., A Thermocouple for Ladle Temperatures of Brass..... | 663 |
| Hall, A. S., Pyrometer Control in a Brass Foundry..... | 649 |
| Hall, J. H., Manganese in Cast Steels..... | 1152 |
| Hamilton, W. C., Open-Hearth Slags..... | 1171 |
| Hansen, C. A., The Grading of Molding Sands..... | 373 |
| Some Properties of Core Oils..... | 577 |
| Harrington, R. F., Report of Sub-Committee on Conservation and Reclamation of Foundry Sands..... | 512 |
| With Wright, A. S., and Hosmer, M. A., Practical and Technical Data Obtained From the Use of Clay Bond in Molding Sand Heaps | 307 |

| | |
|---|------|
| Hosmer, M. A., with Harrington, R. F. and Wright, A. S., Practical and Technical Data Obtained From the Use of Clay Bond in Molding Sand Heaps..... | 307 |
| Hurst, J. E., Some Notes on the Development of the Centrifugal Casting Process in Great Britain and Europe..... | 163 |
| Jameson, A. H., Report of A. F. A. Committee on Steel Castings..... | 1195 |
| Jennings, T. F., Melting All Steel Charges in a Cupola Furnace..... | 1011 |
| Kennedy, R. R., with Oswald, G. J., The Effect of Various Alloys on Growth of Gray Iron Under Repeated Heatings..... | 871 |
| Kimber, H. P., with Udale, S. M., Some Considerations of Metal for Heavy Iron Castings in Permanent Molds..... | 195 |
| Koritta, J., with Quadrat, O., A Study of Malleable Cast Iron..... | 1081 |
| Lamoureux, I., Core Supports in Large Castings..... | 1032 |
| Le Thomas, A. E., Testing Cast Iron..... | 690 |
| Leun, A. V., The Effect of Mulling on the Physical Properties of Foundry Sands..... | 269 |
| MacKenzie, J. T., The Influence of Phosphorus on Cast Iron..... | 986 |
| McCullough, Progress of Cost Accounting in Industry..... | 9 |
| Marsh, K., Temperature Control in Aluminum Foundries..... | 611 |
| Marshall, L. H., with Grubb, A. A., and Nass, C. V., A Thermocouple for Ladle Temperatures of Brass..... | 663 |
| Mazurie, V., with Rother, W. H., The Strength of Cast Iron in Relation to Its Thickness..... | 746 |
| Moldenke, R., Permanent and Long-life Molds..... | 204 |
| Munson, R. S., Defects in Steel Castings..... | 1086 |
| Murphy, J. A., Durable Molds..... | 177 |
| Nass, C. V., with Grubb, A. A., and Marshall, L. H., A Thermocouple for Ladle Temperatures of Brass..... | 663 |
| Oswald, G. J., with Kennedy, R. R., The Effect of Various Alloys on the Growth of Gray Iron Under Repeated Heatings..... | 871 |
| Payne, H. J., Saving in Foundry Handling with the Electric Industrial Truck..... | 59 |
| Piwowsky, E., Progress in the Production of High Test Cast Iron.. | 914 |
| Portevin, A., with Chevenard, P., Principles and Chief Application of Dilatometric Analysis of Materials..... | 760 |
| Quadrat, O., with Koritta, J., A Study of Malleable Cast Iron..... | 1081 |
| Ramp, P. R., Apprentice Training Results Secured by a Lecture Course and Supervision..... | 76 |
| Ries, H., Report of Sub-Committee on Tests of Foundry Sands..... | 516 |
| Ring, C. N., Preliminary Report of Sub-Committee on Survey of Refractories of the Steel Casting Industry..... | 118 |
| Roeser, W. F., with Fairchild, C. O., Pyrometry of Molten Brass.... | 675 |
| Root, A. B., Jr., President's Annual Address..... | 1 |
| Rother, W. H., with Mazurie, V., The Strength of Cast Iron.. in Relation to Its Thickness..... | 746 |

| | |
|--|------|
| St. John, H. M., Temperature Control in the Brass Foundry..... | 640 |
| Preliminary Report of Sub-Committee on Survey of Refractories of the Non-ferrous Industry..... | 136 |
| Sampson, J. M., Defects in Steel Castings Discovered After Shipment From the Foundry..... | 1093 |
| Schwartz, Harry A., What May Be Required of Malleable Cast Iron.. | 1049 |
| Schwartz, H. A., A Permanent Mold Process..... | 182 |
| Shaw, J., Some Gray Iron Problems..... | 810 |
| Smalley, O., Heat and Scale Resisting Cast Irons..... | 881 |
| Thomas, L. B., Metallurgical Control of Foundry Sands..... | 355 |
| Thompson, H. M., High Temperature Cement..... | 147 |
| Touceda, E., Resistance of Malleable Iron to Repeated Impact Stresses and Comparisons of Strength of Machined and Unmachined Mal- leable Castings..... | 1072 |
| Trainer, D. W., Some Experiments on the Refractoriness of Foundry Sands | 327 |
| Udale, S. M., with Kimber, H. P., Some Considerations of Metal for Heavy Iron Castings in Permanent Molds..... | 195 |
| Wakefield, H. W., with Dietert, H. W., Sand Control in the Foundry.. | 244 |
| Walsted, J. P., with Wendt, R. E., A Study of Iron Melted in a Cupola | 1020 |
| Wendt, R. E., with Walsted, J. P., A Study of Iron Melted in a Cupola | 1020 |
| Winship, A. W., Discussion—Permanent and Long-life Molds..... | 211 |
| Wright, A. S., with Harrington, R. F., and Hosmer, M. A., Practical and Technical Data Obtained From the Use of Clay Bond in Molding Sand Heaps..... | 307 |